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ABSTRACT

Grossman's subjective quidelines for identifying different levels of retardation were translated into a scorable functional behavior checklist and administered to 24 institutionalized mentally retarded Ss (age range 17-to-54 years). The quidelines were arranged into the following seven catagories: self-help skills, physical skills, communication, social skills, economic skills, occupation, and self-direction. Results showed that the checklist numerically differentiated among the different levels of retardation and the results from the checklist correlated well with retardation levels determined by more traditional intelligence tests. The therapist can therefore determine a client's level of retardation by observing his functional behavior. (Among appendixes included is Broome's Functional Behavior Checklist.) (Author/PHR)

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NEW YORK STATE DEPARTMENT OF
MENTAL RETARDATION AND DEVELOPMENTAL DISABILITIES

BROOME DEVELOPMENTAL CENTER

TECHNICAL REPORT 79-03

BROOME FUNCTIONAL BEHAVIOR CHECKLIST

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Abstract

Grossman's (1977) subjective guidelines for identifying different levels of retardation were translated into a scoreable functional behavior checklist. When this checklist was administered to a residential population of mentally retarded individuals, it was found that the checklist numerically differentiated among the different levels of retardation. In addition, the levels of retardation determined by the checklist correlated well with the retardation levels determined by the more traditional intelligence tests. The advantages of the checklist in determining the levels of retardation are discussed.

BROOME FUNCTIONAL BEHAVIOR CHECKLIST

One of the most frequently used instruments for the assessment of functional skills is the Adaptive Behavior Scale (Nihira, 1974) or, simply, the ABS. The ABS covers the general domains of psychosocial skills in a population of retarded clients. This scale is used widely as a component of a psychologist's initial test battery and as a universally available client-descriptor in research studies. However, the scale has several shortcomings that limit it's applicability. Administration of the scale is lengthy. The 110 main categories and over 500 items typically require over one hour of staff time to complete. Many items on the scale are not suitable for describing the lower functioning individual that is usually found living in a residential setting, including those items describing such concepts as "consideration" or "dependability." The scale does not take physical limitations into consideration. Often, items are inappropriately global and nebulous, failing to delve into sufficient detail to describe a particular skill. For toileting, as an example, there are only two major items presented to describe that skill. Another drawback to the ABS is the ambiguity of many of the items. Some items rely on such unsuitable phrases as "is jealous", "throws tantrums", and "seems to have no emotional control". Finally, the ABS tends to rely on questions that require a binary response by the rater which consequently fails to account for the amount and type of staff assistance (if necessary) required for the client to complete the task.

As an alternative to the ABS, several clinicians refer to the subjective guidelines proposed by Grossman (1977) to evaluate levels of retardation. These guidelines focus primarily on self-help skills, physical competency, and communication. These skill domains are relevent to all levels of retardation in preparing for client programming and placement.

However, it is seldom suitable to rely on subjective guidelines to make even a nominal diagnosis. The guidelines are not a structured, scorable scale. The clinician who relies on the guidelines may fail to cover all relevant skills or to consistently go into sufficient detail in any single skill. In addition, the clinician may change the language as well as the intent of the questions on each administration of the subjective guidelines. Such omissions and changes would preclude client comparisons as well as limit the clinician's ability to replicate diagnoses.

This paper describes an attempt to objectify Grossman's guidelines by structuring his descriptive phrases into a checklist. This derived scale will not attempt to be as encompassing as the ABS but it will be adequate and reliable for classification, screening, and treatment planning purposes. The checklist will also yield scores for determining the functional level of a client.

Development of the Test

Short phrases describing functional skills were extrapolated from Grossman's guidelines and arranged into seven major categories: self-help skills, physical skills, communication, social skills, economic skills, occupation, and self-direction (Appendix I). In some instances, these descriptive phases were further divided into subcategories. Many items were arranged into a hierarchy, going from the simplest, or most elementary, skill to the most complex skill in that domain. For each skill category the rater was asked to select the highest single skill exhibited within that domain. Other items did not readily fall into a hierarchy. They were simply grouped together and raters were asked to check all of the skills that were exhibited by the client.

Scoring Criteria

A scoring key was established for adults aged 15 years and older. Grossman (1977) describes the skills of an adult at each level of retardation. By counting the number of items in the checklist from each of Grossman's levels of retardation, a scoring key was developed to designate a client's level of retardation based on his total score (Appendix II). Similar techniques could be used to obtain levels of retardation for clients below the age of 15 years.

Subjects

The checklist was completed for 24 clients from a New York State developmental center. The subjects ranged in age from 17 to 54 years of age. They appeared to function at several levels of intellectual, adaptive, and physical skills. Some clients were profoundly physically and mentally handicapped while others possessed adequate functional skills, conversational language, and attended educational and vocational programs in the community. Intelligence quotients, as measured by standardized instruments, ranged from "untestable" to a high of 94. There were 17 male 7 female clients.

Administration of the Checklist

The members of the ward staff who most frequently came in contact with each of the 24 clients were asked to complete the scales. Since the staff had previous experience completing functional profiles, only minimal verbal instructions were necessary to complete the checklist. Following its administration, item scores were summed for each major category to obtain a total score for the entire checklist. This information is summarized in Appendix III. Appendix III also includes each client's intelligence quotient and his or her numerical level of retardation as determined by both the checklist and the intelligence quotients. Here, a "1" represents profound retardation, "2" severe, "3" moderate, "4" mild, and "5" normal intelligence.

Results

For convenience, the scores in Appendix III were arranged in a hierarchy based on the client's level of function as determined by the intelligence quotient. The ability of the checklist to differentiate among various levels of retardation was explored. The checklist - determined levels of retardation were correlated with the I.Q. - determined levels of retardation. The pearson-product correlation was +0.83. This correlation suggests that the levels of function as determined by the checklist tend to match those levels determined by the intelligence quotients. Thus, the data conforms with the notion that functional skill increases cognitive performance. [1]

Table I presents the average checklist score for each (I.Q. - determined) level of functioning. Although the sample size for some categories is small, the table indicates that the categories of retardation level tend to be numerically distinct from one another.

* * * * * * * * * * * * *

Insert Table I About Here

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Discussion

The information presented in Table I demonstrates that the checklist differentiates among levels of retardation. Furthermore, the high correlation between the differently determined levels of retardation indicates that Grossman's guidelines yield information on functional levels which is compatible with traditional intelligence instruments. This information indicates that a therapist can determine a client's level of retardation by observing his functional behavior. This is clearly an advantage. Intellectually - determined levels of retardation require formal testing instruments which are largely dependent upon language skills and

appropriate (non-problematic) social behavior, skills often absent in retarded clients.

Appendix II presents the range of scores necessary to differentiate between levels of retardation based on the total checklist score. Following Grossman's method for differentiating functional levels, it would be possible to assign retardation levels to individual skill categories. Although such a labeling for each category (i.e., severly delayed in communication skills) is not necessarily desireable by itself, this information would be useful in identifying skill deficits relative to one another and, consequently, making the appropriate treatment recommendations.

Operationalizing the subjective guidelines that many clinicians rely on to diagnose levels of retardation has other advantages. The clinician has available to him a standard instrument the administration of which can be replicated and the reliability of which can be determined. Also, the checklist focuses on skills that are most relevant in a residential developmental center and which are most likely in need of habilitative interventions.

Before this checklist can be used as a standardized instrument in determining levels of retardation, further work is needed. Additional subjects need to be added to the sample pool and multiple administrations of the checklist on the same client must be undertaken. However, as a first order approximation of a diagnostic instrument based on the observation of functional skills, the checklist shows promise as a useful tool. Checklist scores correlate well with I.Q.'s from standardized instruments of intellectual assessment, the checklist is easy to administer, it is brief, and it measures skill performance in the most common areas of functional behavior.

Footnote

Subject S22 was multiply handicapped and incapable of motor activity. Consequently, this subject scored in the profound level on the checklist. Cognitively, however, he scored in the mild range of retardation as a result of his I.Q. of 59. This large discrepancy between functional skill and intellectual performance prompted the discussion to drop this subject from the study.

REFERENCES

Grossman, H.T. (Ed.). Manual on Terminology and Classification. Washington, DC: American Association on Mental Deficiency, 1977.

Nihira, K., Foster, R., Shellhaas, M., and Lelano, H., AAMD Adaptive Behavior Scale. American Association on Mental Deficiency, 1974.

TABLE I

BREAKDOWN OF M.R. LEVELS

M.R. LEVEL (I.Q. Determined)	AVERAGE CHECHLIST SCORE	n
1. (PROFOUND)	51	11
2. (SEVERE)	77	2
3. (MODERATE)	88	7
4. (MILD)	93	2
5. (NORMAL)	106	1

APPENDIX I

Broome Functional Behavior Checklist

Choose the statement that best describes the client.

I. Self-help Skills

A.
_____ 1. drinks from cup with assistance
_____ 2. drinks from cup unassisted

B.
_____ 1. opens mouth for feeding
_____ 2. uses fingers for feeding
_____ 3. feeds self with spoon - messy
_____ 4. feeds self with fork - messy
_____ 5. feeds self with spoon adequately
_____ 6. feeds self with fork adequately
_____ 7. uses knife to butter
_____ 8. feeds self without assistance
_____ 9. prepares easy foods (i.e. peanut butter sandwiches)

C.
_____ 1. cooperates during dressing (i.e. extends arms, legs)
_____ 2. removes socks
_____ 3. removes pants
_____ 4. undresses completely

D.
_____ 1. puts on socks or underpants or dress
_____ 2. dresses self except for zippers/buttons
_____ 3. dresses self completely
_____ 4. ties shoe laces

E.
_____ 1. cooperates during toileting
_____ 2. indicates toileting accidents
_____ 3. indicates toileting need
_____ 4. self initiates at times but still has accidents
_____ 5. toilet-trained

F.
_____ 1. cooperates during bathing
_____ 2. bathes or washes with considerable assistance
_____ 3. bathes with minimal assistance (verbal only)
_____ 4. bathes self unassisted

G.
_____ 1. combs/brushes hair

H.
_____ 1. puts own clothing away

II. Physical Skills

A.
_____ 1. sits unsupported
_____ 2. stands alone
_____ 3. walks with help
_____ 4. walks alone

Appendix I continued

B. _____ 1. climbs stairs with help
_____ 2. goes up and down stairs one step at a time
_____ 3. climbs stairs alternating feet

C. _____ 1. reaches for objects
_____ 2. grasps with thumb and finger
_____ 3. manipulates (and holds) objects
_____ 4. eye-hand coordination (picks up object on first try)
_____ 5. passes objects to others
_____ 6. throws ball
_____ 7. transfer object from one hand to the other
_____ 8. assembles simple puzzles

Check all that apply

_____ runs
_____ jumps
_____ balances on one foot for 5 seconds
_____ hops or skips
_____ rides bike
_____ climbs tree or jungle jim
_____ dances
_____ uses skate or sled or jump rope
_____ goes about local town without assistance

III. Communication

A. _____ 1. responds to gestures
_____ 2. performs simple commands
_____ 3. understands directions and instruction
_____ 4. understands complex communication using "because", "but"

B. _____ 1. imitates sounds
_____ 2. laughs or smiles back
_____ 3. communicates with gestures
_____ 4. speaks 1 or 2 words
_____ 5. speaks 3 to 6 words
_____ 6. speaks 2 - 3 word sentences
_____ 7. names common objects
_____ 8. knows people by name
_____ 9. speaks about 300 words
_____10. speaks grammatically correct sentences
_____11. relates experiences in simple sentences
_____12. speaks in complex sentences
_____13. carries on simple conversations
_____14. speaks in complex sentences using "because", "but"

Appendix I continued

Check all that apply

_____ recognizes (some) printed words
_____ reads simple prose with comprehension
_____ uses telephone
_____ writes simple letters

IV. Social Skill

Check all that apply

_____ recognizes familiar persons (smiles, reaches for them)
_____ initiates play (leisure time activity)
_____ plays alone for 5 minutes
_____ plays with others under supervision
_____ parallel play (plays along side another person, but does not interact with that person)
_____ shows preference for some people
_____ simple play activities with others
_____ cooperates in group
_____ participates in group
_____ imaginative play ("house", "cowboys")
_____ expressive games (art, dance)
_____ competitive activities
_____ have friendships that last weeks or months
_____ initiates group activities
_____ belongs to a club
_____ enjoys formal recreation (bowling, dancing, checkers)

V. Economic Skills

A. _____ 1. send on simple errands
_____ 2. simple purchase with note
_____ 3. send on errand for several items with note
_____ 4. makes minor purchases
_____ 5. can be sent to several shops to make purchases

V. _____ 1. uses coins in slot
_____ 2. adds coins up to one dollar
_____ 3. makes change correctly

VI. Occupation

Check all that apply

_____ prepares simple food items (sandwiches, toast)
_____ simple household tasks (sweeps, vacuums) under supervision
_____ sets and clears table

Appendix I continued

_____ routine household tasks (dusting, dishwashing, garbage)
_____ prepares simple meals
_____ holds simple job

VII. Self-Direction

A. _____ 1. attention span up to 10 minutes
_____ 2. attention span is 10 - 20 minutes
_____ 3. attention span exceeds 30 minutes

B. Check all that apply

_____ asks for work to do around the house (unit)
_____ initiates most activities
_____ conscientiously carries out tasks

APPENDIX II

Scoring Key for Adults*

SKILL CATEGORY	LEVEL OF RETARDATION			
	Profound	Severe	Moderate	Mild
Self-Help	0 - 11	19-25	26-30	26-30
Physical	0 - 22	23	23	24
Communication	0 - 15	16-17	18-20	21-22
Social	0 - 11	12-13	13	14-16
Economic	0	1-3	4-6	7-8
Occupation	0	1-3	4	5-6
Self-Direction	0	1-2	3-4	5-6
RANGE (Total Score)	0 - 66	67-86	87-101	102-112

*For clients 15 years of age and over.

APPENDIX III

Checklist Scores, Intelligence Quotients, and Retardation

Subjects	Self-Help	Physical	Communication	Social	Economic	Occupation	Self Direction	Total	IQ	C[1]	C[2]
1	23	18	6	2	0	0	0	49	*[3]	1	1
2	13	3	12	1	0	0	2	31	*	1	1
3	15	16	9	2	0	0	0	42	*	1	1
4	14	13	9	1	0	0	3	40	*	1	1
5	15	15	4	5	0	0	2	41	*	1	1
6	9	19	4	9	0	0	1	42	*	1	1
7	28	20	12	12	1	2	3	78	*	2	1
8	21	14	7	7	0	0	0	49	*	1	1
9	28	21	7	12	2	3	2	75	*	2	1
10	20	17	9	7	0	0	0	53	*	1	1
11	26	18	6	10	0	1	2	63	22	1	1
12	27	20	10	7	1	4	2	71	32	2	2
13	29	20	19	10	3	0	1	82	32	2	2
14	29	20	17	8	5	4	5	88	41	3	3
15	30	21	17	8	2	4	2	84	48	2	3
16	30	19	8	9	3	5	5	79	48	2	3
17	30	22	11	9	2	4	1	79	50	2	3
18	29	21	19	11	6	5	2	93	51	3	3
19	29	20	17	8	5	4	5	88	53	3	3
20	30	23	21	13	5	6	6	104	54	4	3
21	27	23	18	8	1	1	3	81	57	2	4
22[4]	4	0.	7	3	0	0	3	17	59	1	4
23	30	23	22	13	7	5	5	105	64	4	4
24	30	22	22	12	8	6	6	106	94	4	5

1. C Level of Functioning as Determined by the Checklist.
2. I Level of Functioning as Determined by Intelligence Quotient.
3. * I.Q. is less than 20.
4. S_{22} was Dropped from the Sample.